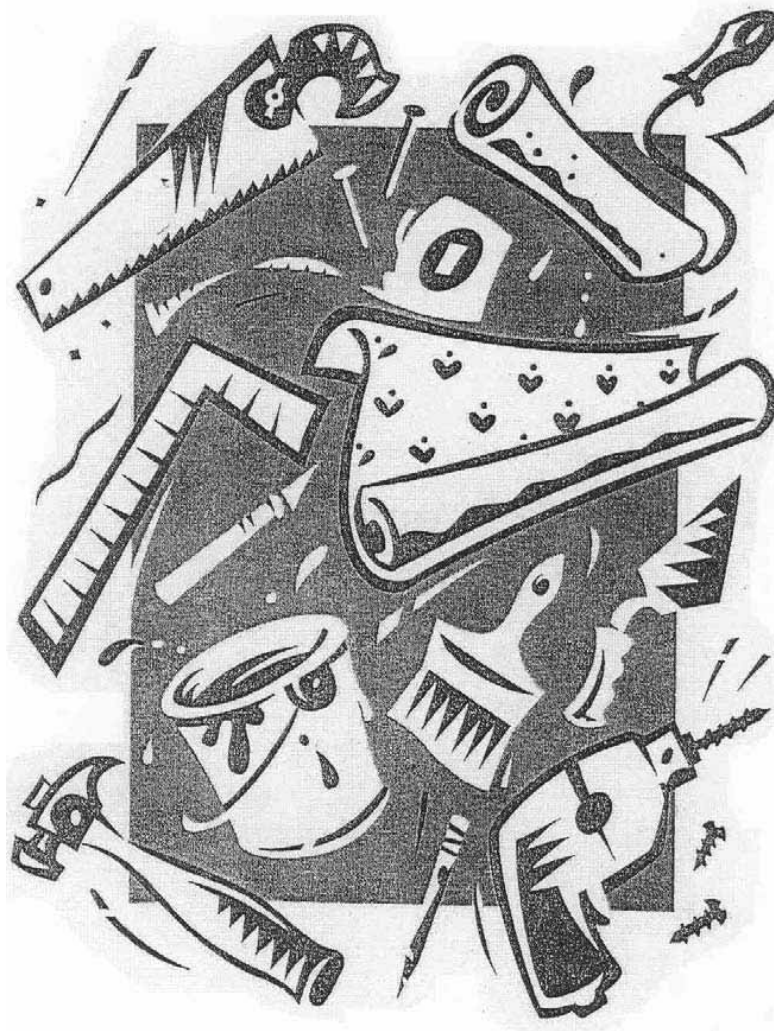




Homeowner Building Permit Manual

August 2007



Planning and Development Department
Development Services Division
(480) 782-3000

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Introduction

This manual is designed for the Chandler homeowner. It is intended to:

- Provide information concerning the requirements for obtaining a building permit.
- Provide examples of plans and details that will aid in project completion and code compliance.
- Inform homeowners of the requirements that must be met by contractors.
- Answer some of the most commonly asked building code and compliance questions.

Please Note

If the home is in a subdivision with a homeowners' association, the plans must be approved by the association *before* applying to the City for a building permit.

How To Obtain A Building Permit

The Development Services Construction Permit Counter is located at 215 East Buffalo Street in downtown Chandler.

Any construction requiring a permit also requires that a licensed contractor do the work, unless the owner-applicant performs the work. It is the responsibility of the homeowner or the contractor to obtain a building permit.

If the home is in a subdivision with a homeowners' association, the plans must be approved by the association before applying to the City for a building permit.

Application

When applying for a permit, provide two sets of detailed plans that include:

- Legal description(s) and parcel number(s).
- Plot (site) plan, which must show property lines, all buildings on the lot and dimensions from any new structures to related property lines.
- Floor plan.
- Building elevations.
- Structural details (footings, post to beam connections, truss calculations).
- Mechanical, plumbing, electrical plans, etc. (if applicable).

Fees

Building permit and plan check fees are charged according to the valuation of your project. The valuation is estimated based on the approximate cost of having a contractor do the job, including labor and materials. The minimum permit fee is \$22.00, based on a valuation of \$500.00 or less, and the permit fee increases from this point (see Appendix A "Building Plan Review and Permit Fees"). Please note:

- Plan check fees are due at the time you submit your plans.
- Any project under construction or completed without a permit will be charged a double permit fee.

Codes

The City of Chandler uses the following Code editions:

- 2003 International Building Code.
- 2003 International Residential Code.
- 2003 International Plumbing Code.
- 2003 International Mechanical Code.
- 2003 International Fuel Gas Code.
- 2002 National Electrical Code.
- 1994 Uniform Swimming Pool, Spa and Hot Tub Code.
- 1994 Uniform Administrative Code.

Please also refer to the Chandler City Code, on the Web at

(<http://www.municode.com/resources/gateway.asp?sid=3&pid=10158>)

- Chapter 29: Building Safety Regulations
- Chapter 35: Land Use and Zoning

Inspections

The inspections that are required are listed on the orange card provided when the permit is issued.

In an ongoing commitment to improve customer service, the City of Chandler has installed an Interactive Voice Response system for building inspection requests. This telephone number is (480) 782-3100. Before calling, you will need:

- Touch-tone telephone.
- Permit number.
- An inspection code (these are listed on the orange card).

The Interactive Voice Response system will prompt you through the steps to:

- Schedule an inspection.
- Cancel an inspection.
- Obtain inspection results.

Work Exempt from Permit

Per Section 301.2.1 of the 1994 Uniform Administrative Code, a building permit is not required for the following:

1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the projected roof area does not exceed 120 square feet. The maximum roof height of a shed is 7 feet and there may not be any utilities running to the structure.
2. Fences not over 6 feet high.
3. Movable cases, counters and partitions not over 5 feet 9 inches high.
4. Retaining walls that are not over 4 feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or II-A liquids.
5. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons and the ratio of height to diameter or width does not exceed 2 to 1.
6. Platforms, walks and driveways not more than 30 inches above grade and not over any basement or story below.
7. Painting, papering and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Window awnings supported by an exterior wall of Group R, Division 3, and Group M Occupancies when projecting not more than 54 inches.

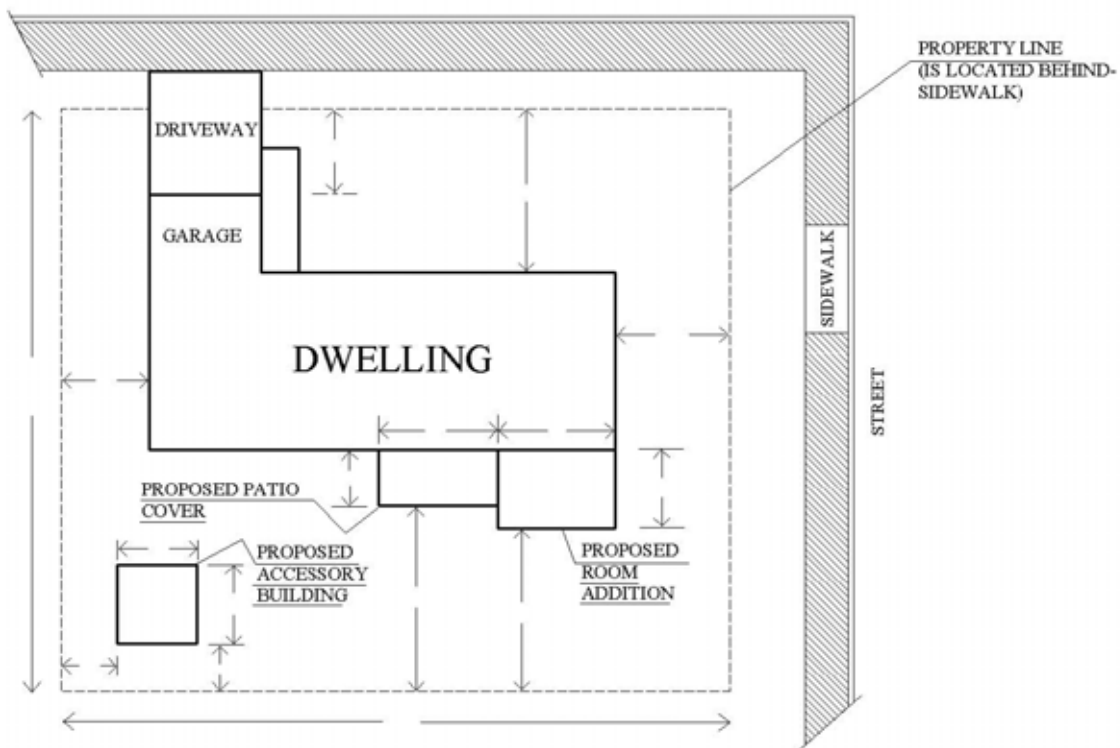
Unless otherwise exempted, separate plumbing, electrical and mechanical permits will be required for the above exempted items.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of this code or any other laws or ordinances of this jurisdiction.

Plot Plan

Every permit that requires a building plan must be accompanied by a plot plan. A plot plan is a drawing of the lot showing the following:

- Location of property lines on all sides. The location of street side property lines will vary from 3 to 6 feet behind the sidewalk.
- All existing buildings on the lot, including their dimensions and distances to property lines.
- All proposed additions or structures with their dimensions and distances to property lines.
- Total square footage of the lot, existing buildings and proposed additions.



Note: To find the true property line, determine the right-of-way (ROW) width. This information is available from the City of Chandler, Public Works General Services section at (480) 782-3340.

Carport to Garage Conversion

This section applies to a building permit for a carport to garage conversion that is attached to a primary building. If this project is *not* attached to a primary building, please refer to the section on accessory buildings (p. 20).

A carport is defined as a structure primarily used for parking vehicles, with 2 sides totally open, with a minimum clear dimension of 9 feet by 19 feet per parking space.

A garage is defined as a structure primarily used for parking vehicles, double garage with one 16-foot opening or two 8-foot openings (minimum), with a minimum clear dimension of 9 feet by 19 feet per parking space.

To obtain a building permit, please submit:

- Completed application.
- Two copies of the plot plan, showing the house, the lot and the carport with distances to property lines.
- Three copies of the building plan, showing applicable details.

The garage shall be separated from the residence and its attic by not less than ½ inch gypsum board applied to the garage side. If the dwelling is of masonry construction, it meets the occupancy separation required between the garage and dwelling. There must be a similar separation between the garage and living space above.

Any door into the dwelling must be:

- Minimum 20-minute fire rated; or
- 1⅜-inch solid wood door; or
- Solid or honeycomb core steel doors not less than 1⅜ inches thick, with self closer.

No openings are permitted in the walls between the house and garage unless they are fire rated. Under no circumstances shall a private garage have any opening into a room used for sleeping purposes.

Any main door to the outside must have a concrete landing. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

A switched exterior light is required at the exterior side of each outdoor egress door. A light must also be provided inside the garage and the switch must be located at the interior door.

A minimum of one electrical outlet is required in a garage (in addition to any provided for laundry). All readily accessible electrical outlets shall have ground fault circuit interrupter (GFCI) protection.

Any non-bearing wall to be added does not need its own footing, but it shall have a bottom plate of treated wood or wood of natural resistance to decay. This bottom plate must be fastened to the slab in an approved manner and must be 6 inches above the adjoining surface. Usually this requires that you either thicken your slab or build a stem wall.

Any bearing wall shall have its own footing, a bottom plate of treated wood or wood of natural resistance to decay, must be secured in an approved manner and must be 6 inches above the adjoining surface. Usually this requires that you either thicken your slab or build a stem wall.

The garage conversion must be architecturally integrated with the existing residence. The drawings that are submitted need to clearly indicate what the wall and roof covering are on the existing residence as well as on the proposed garage.

Fences and Walls

It is the responsibility of the homeowner to locate the property lines and to contact the Arizona Blue Stake Center with a request to have all underground utilities located. The Arizona Blue Stake Center can be reached at (602) 263-1100 or (800) 782-5348. You need to call at least two days before you dig.

All fences must be maintained a minimum of 3 feet from fire hydrants or utilities.

If a pool fence is being replaced, the pool area must remain secured during construction.

The maximum fence height is 7 feet in rear and side yards. The maximum fence height in front yards is 3 feet.

A permit is required to build a fence over 6 feet high.

A permit is required if the wall is used for retaining and is over 4 feet in height measured from the bottom of the footing to the top of the wall.

A permit is required if a fence is to be placed on top of a retaining wall.

4-inch thick walls are not an approved system to be used as retaining walls.

Regardless of height, all fences or walls require zoning clearance. Zoning staff review and approve the fence/wall placement and type of material.

Landscaping

Landscaping does not generally require a permit. However, a permit is needed to install an irrigation system (but no plan review is needed). This permit allows inspectors to check the installation of the required anti-siphon valve or pressure backflow preventer and electrical timers.

The landscape inspector will need access to the main electrical panel for purposes of inspecting the circuit breaker. The circuit breaker must be compatible with the electrical panel brand. Electrical timers may not “piggy-back” on another circuit breaker.

Irrigation System Details

Per section 2902.4.3 of the 2003 International Residential Code, the potable water supply to lawn irrigation systems shall be protected against backflow by:

- An atmospheric-type vacuum breaker; or
- A pressure-type vacuum breaker; or
- A reduced pressure principle backflow preventer.

A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Installation

It is recommended that a licensed contractor install the anti-siphon/vacuum breaker assemblies. If someone other than a licensed contractor does the installation, make sure the assembly is positioned correctly with the arrow pointed in the direction of the water flow. The use of lead solder is prohibited.

Any aboveground piping before the anti-siphon/vacuum breaker assembly may be copper or galvanized pipe. If PVC is used, it must be protected from physical damage and be sunlight resistive. All connecting piping installed in the ground before the anti-siphon/vacuum breaker must be buried at least 12 inches deep.

Vacuum breakers shall be installed a minimum of 6 feet above the flood level rim of the fixture or device in accordance with Section 608.15.4 of the 2003 International Plumbing Code. The flood level rim of hose connections shall be the maximum height at which any hose is utilized.

Type of Assembly

Atmospheric Anti-Siphon Assembly

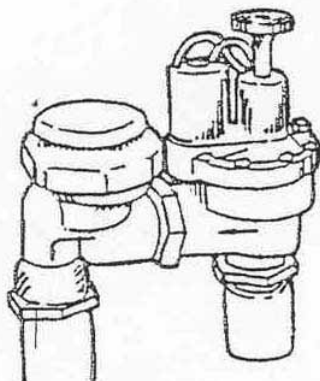
Atmospheric anti-siphon assemblies work on the principle of atmospheric pressure. Once the irrigation valve shuts off or if there is a sudden drop in water pressure, a float disc in the assembly drops down to prevent back flow.

- Pipe-applied atmospheric-type vacuum breakers shall conform to ASSE 1001 or CSA CAN/CSA B64.1.1.
- Hose connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA CAN/CSA B64.2, CSA CAN/CSAB64.2.2, CSAB64.7.

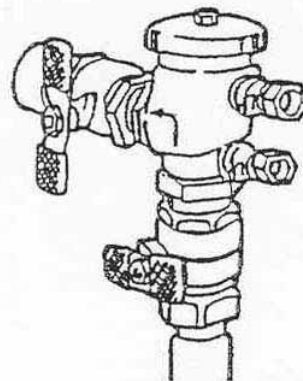
These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height. An atmospheric anti-siphon assembly shall be installed at least 6 inches above all downstream piping and sprinkler heads, bubblers or drip emitters. This will keep the vacuum breaker from being subjected to back pressure or drainage.

Pressurized Anti-Siphon Assembly

Pressure-type vacuum breakers shall conform to ASSE 1020, and spill-proof vacuum breakers shall comply with ASSE 1056. These devices are designed for installation under continuous pressure conditions when the critical level is installed at the required height. Pressure-type vacuum breakers shall not be installed in locations where spillage could cause damage to the structure. A pressurized anti-siphon assembly provides great flexibility because only one assembly is needed regardless of the number of control valves. The control valves may be placed above or below ground. A pressurized anti-siphon assembly must be in an upright position and at least 12 inches above all downstream piping and sprinkler heads, bubblers or drip emitters. A pressurized anti-siphon assembly includes shut-off valves and test ports that facilitate testing to determine proper operation.



Atmospheric Anti-Siphon



Pressurized Anti-Siphon

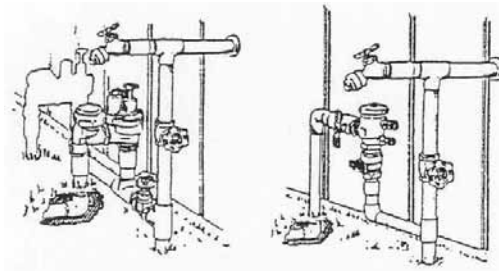
System Connection

Before installing an underground irrigation system, decide where to make the water source connection. Water professionals recommend the following four options shown.

Whichever option you choose, it is recommended that the anti-siphon/vacuum breaker assembly be installed with its own gate valve. This enables the irrigation system water to be shut off without disrupting water service into the home. Turning off the water at the meter is not recommended. This may cause a leak at the supply line coupling to the meter. All leaks on the home side of the water meter are the owner's responsibility to repair.

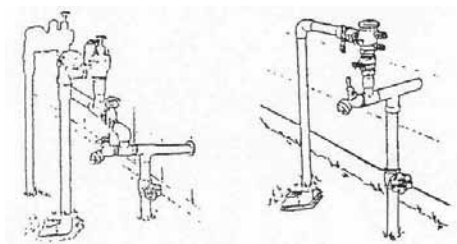
Option 1

Connect to the capped extension (copper tee) on the riser (water supply going into the home).



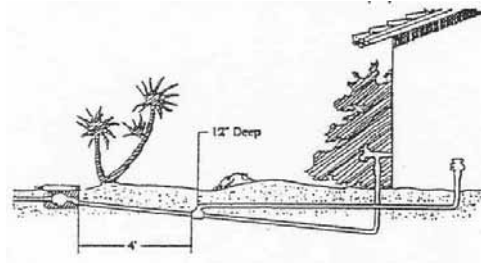
Option 2

Connect to the water faucet line above the riser. An extension tee is added between the faucet and the waterline.



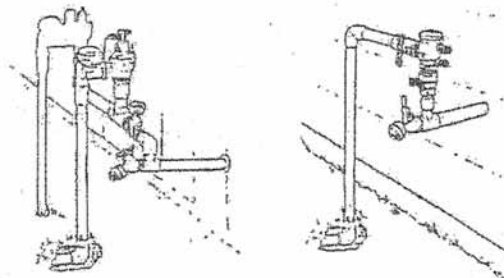
Option 3

Connect to the water service line on the home side of the water meter. At the point of connection, the irrigation line must be 12 inches deep. The connection should be made at least 4 feet on the home side of the meter.



Option 4

Connect to the water faucet line at the back or side of the home. An extension tee is added between the faucet and the waterline. This faucet line is $\frac{1}{2}$ inch in diameter. Since this waterline is generally smaller than the front water faucet line ($\frac{3}{4}$ inch), the irrigation system will have less water pressure. In addition, if the home has a water softener, this faucet line will contain conditioned water, which may be harmful to plants.



Electrical and Gas Permits

Electrical Permits (200 amp maximum)

Clearly indicate the size and type of conductors (wire) being used, i.e. #6 THHN. Also, indicate the size and type of conduit and the proposed burial depth.

Provide grounding electrode conductor and grounding electrode:

- Grounding electrode is a metallic rod driven into the earth.
- Grounding electrode is a minimum of 8 feet long.
- Grounding electrode conductor must terminate on rod with an acorn clamp.
- Grounding electrode conductor must be a minimum solid #4 AWG bare copper conductor.

If Ufer (concrete encased electrode) is provided, the previous items do not apply. The Ufer shall be 20 feet of solid #4 AWG bare copper conductor in concrete with solid #4 AWG bare electrode conductor to the service entrance section.

Water Bond

Provide a minimum #4 AWG bare copper conductor connected with a water bond clamp to the cold water supply at an outside hose bib or at the cold water piping of the water heater. This must be readily accessible.

Gas Bond

Provide a minimum #4 AWG bare copper conductor connected on the user side to the gas line with an approved clamp that is readily accessible.

All overhead services must have a point of attachment on the weather head mast.

All breakers inside the service panel must be compatible with the panel cover (dead front) and permanent ink must be used.

Gas Permits

When adding a gas line inside the residence, or attaching to an existing gas stub out, you need to:

- Provide a gas riser schematic that shows the length of all sections of the gas line, starting at the gas meter. Show all existing appliances, as well as any proposed additions.
- Provide the total BTU rating of each appliance.
- Provide each line size.
- Provide each line type.

If you propose to add a new gas line from the meter you need to:

- Show the length of all sections of the gas line, starting at the gas meter.
- Provide the total BTU rating of each appliance.
- Provide each line size.
- Provide each line type.

Tests of 10 PSI systems shall be performed with gauges of 1/10-pound increments or less, over a period of 15 minutes.

Tests of metal welded pipe shall be performed at 60 PSI with gauges of one pound increments or less, over a period of 30 minutes.

All tests must be made through the open valve and flex line. The flex line must be capped at the appliance connection.

The use of heat fusion PE (polyethylene) plastic pipe requires a minimum 12-inch deep trench and a continuous insulated 18-gauge copper tracer wire.

All metal gas piping used in underground systems shall have factory-applied coating.

Field wrapping is limited to fittings and short sections of piping, where the factory wrap has been damaged or stripped for threading or welding.

Galvanized fittings or piping is prohibited in underground systems.

Patio Covers

Posts for patio covers will require a footing.

Rafters must be sized according to tables in the International Residential Code, and beams must be sized to carry the calculated roof loads. (Laminated beams may not be used in exposed locations unless they are approved for exterior use.)

Ledgers supporting rafters must be secured directly to existing wall framing members.

Rafters may not be attached directly to the existing fascia. They must bear on the existing wall top plate or attach directly to the house by ledger board that butts directly against vertical studs. (Any stucco or gypsum board covering the studs must be removed.)

The minimum required roof slope is $\frac{1}{4}$ -inch per foot. The minimum roof slope varies depending on the type of roofing material you propose to use.

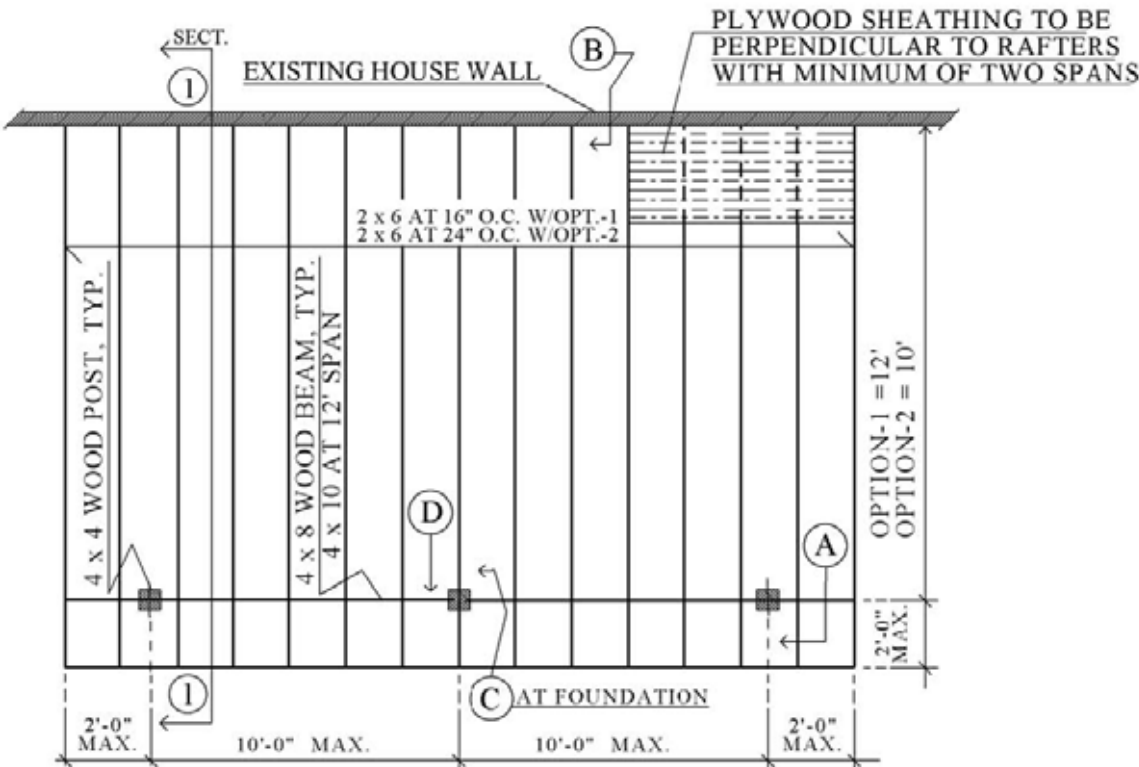
The minimum height from the finished floor to the bottom of any beam is 6 feet, 8 inches.

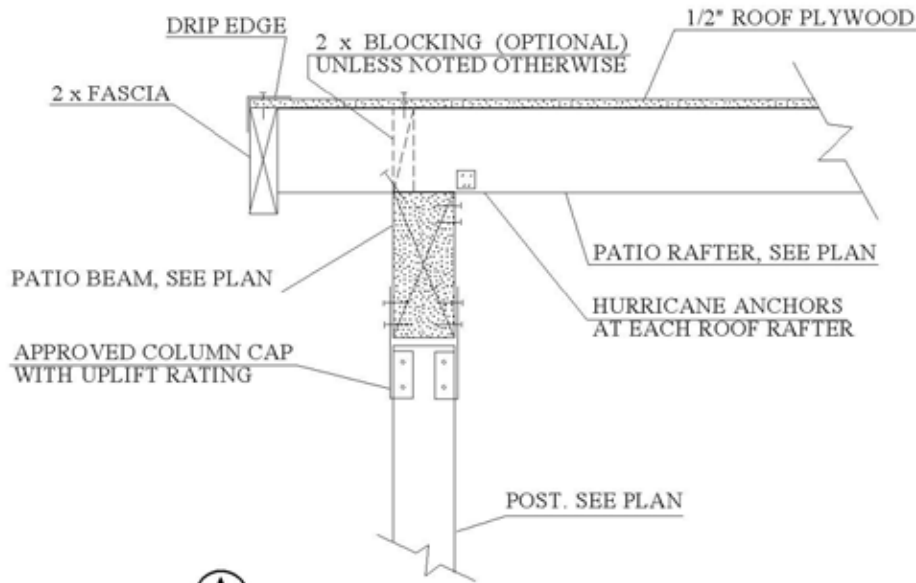
The drywall installed on the ceiling can be either Soffit or Brown Board. Where the roof framing is 12 inches on center, Greenboard may be used.

Please refer to the patio cover details on the following pages.

SAMPLE PATIO COVER FRAMING PLAN

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE (P.S.N.)

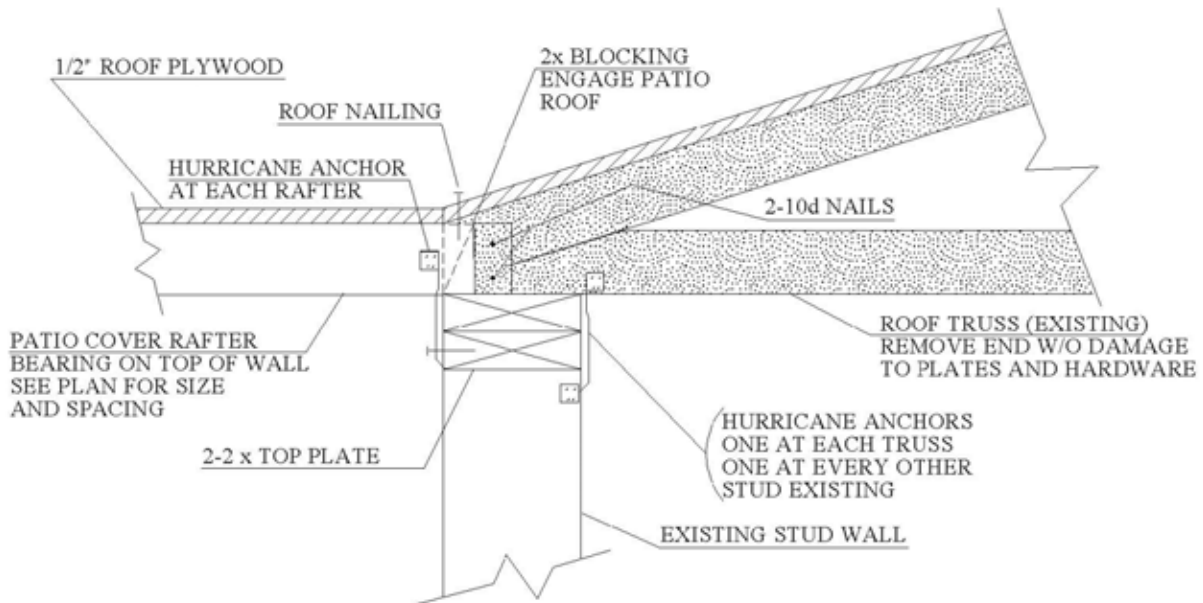




A

PATIO COVER COLUMN TO BEAM

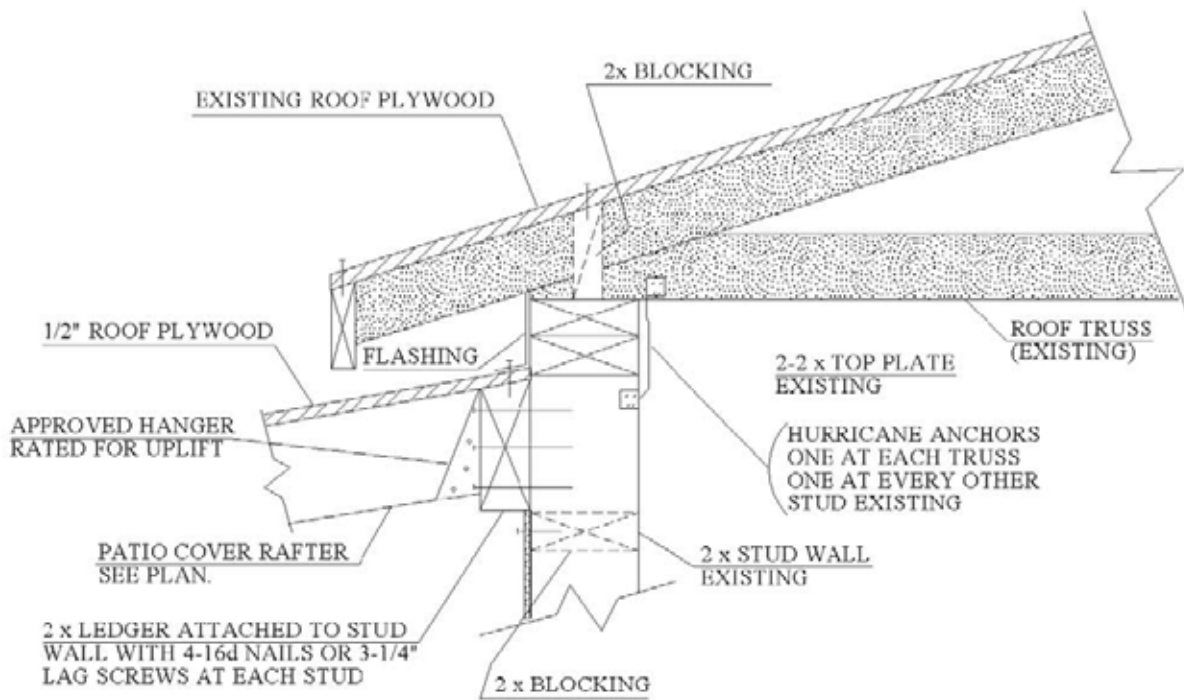
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B

PATIO COVER RAFTER AT EXISTING WALL

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE (P.S.N.)

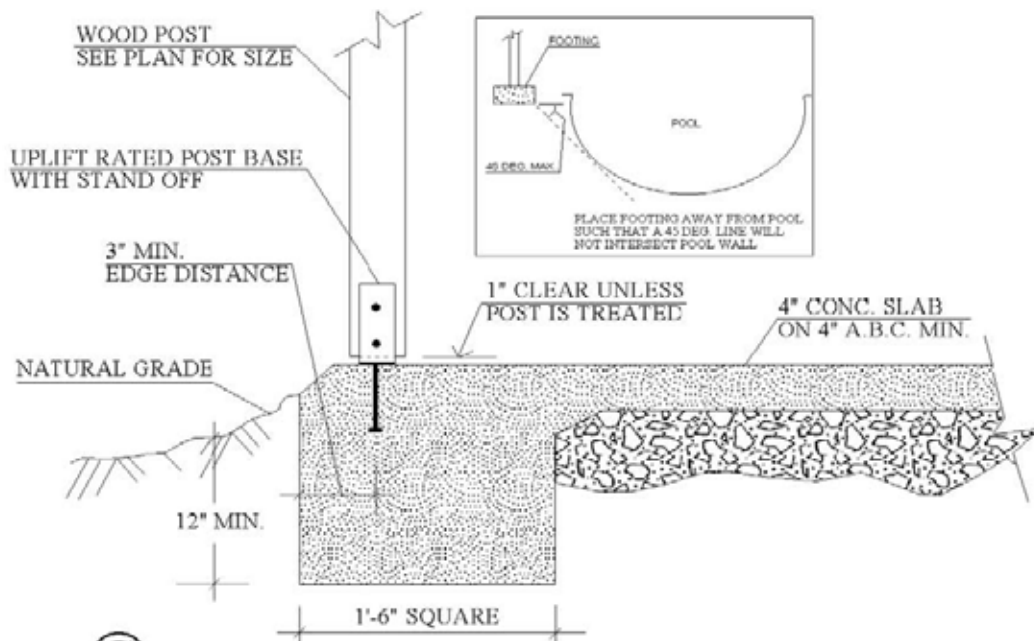


(B) ALT.

PATIO COVER RAFTER AT EXISTING WALL

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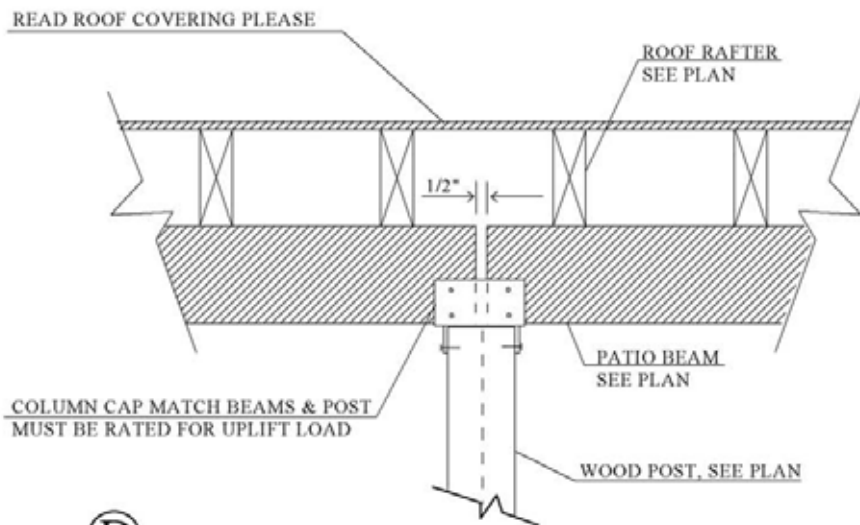
(P.S.N.)



(C)

FOOTING AT PATIO COVER POST

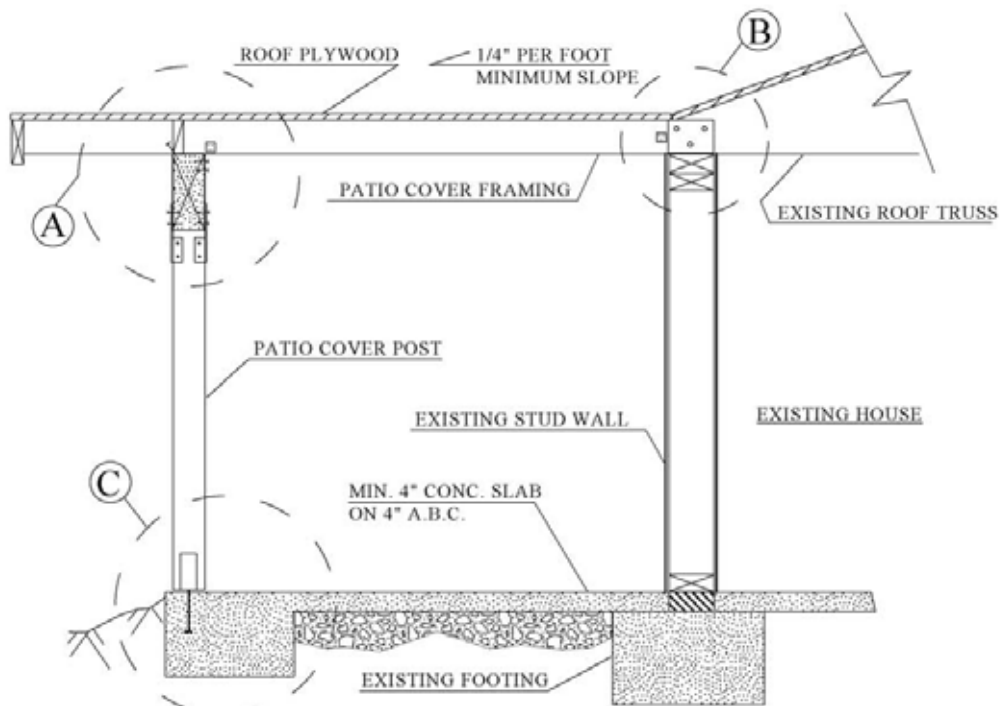
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D

BEAMS AT CENTER POST

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE (P.S.N.)



1

SECTION AT PATIO COVER

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE (P.S.N.)

1

Accessory Buildings

An accessory building is a building that is subordinate and customarily incidental to the main building on the same lot, including a private garage, but not involving any activity used for commercial or dwelling purposes. This includes detached garages, which shall not exceed 1,000 square feet. Only one accessory building is allowed per lot.

To obtain a building permit, please submit:

- Completed application.
- Two copies of the plot plan showing the house on the lot and the proposed accessory building with distances to the property lines.
- Two copies of the building plan, showing applicable details. At a minimum, a foundation plan, a roof framing plan, a floor plan and wall sections are required.

An accessory building must:

- Be located at the rear of the principal building, and shall not occupy more than 30 percent of the rear area.
- Meet the minimum side and rear yard setbacks required for the district in which it is located. Setbacks/separations required by the Building Code also apply.

Accessory buildings in single-family residential districts shall not exceed 15 feet in height, as required by the City of Chandler Zoning Code.

An accessory building cannot be constructed in advance of the principal structure. It cannot be used for dwelling purposes.

Accessory buildings shall be architecturally compatible with the principal building. Provide information on your drawings indicating the wall and roof covering of the existing principal building.

Prior to building, check with local utility companies for any easement locations.

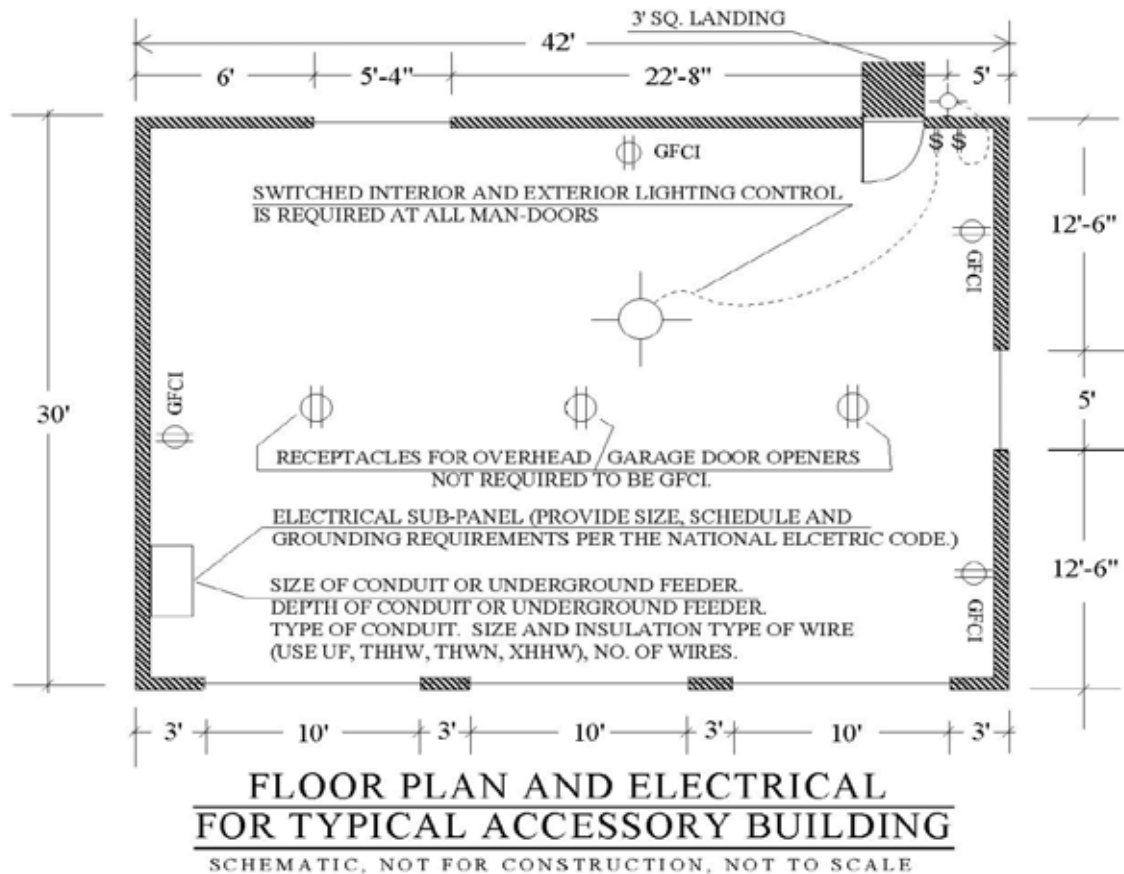
Utilities may be provided in accessory building to include mechanical, plumbing, water sewer, heating, air conditioning, electrical or gas.

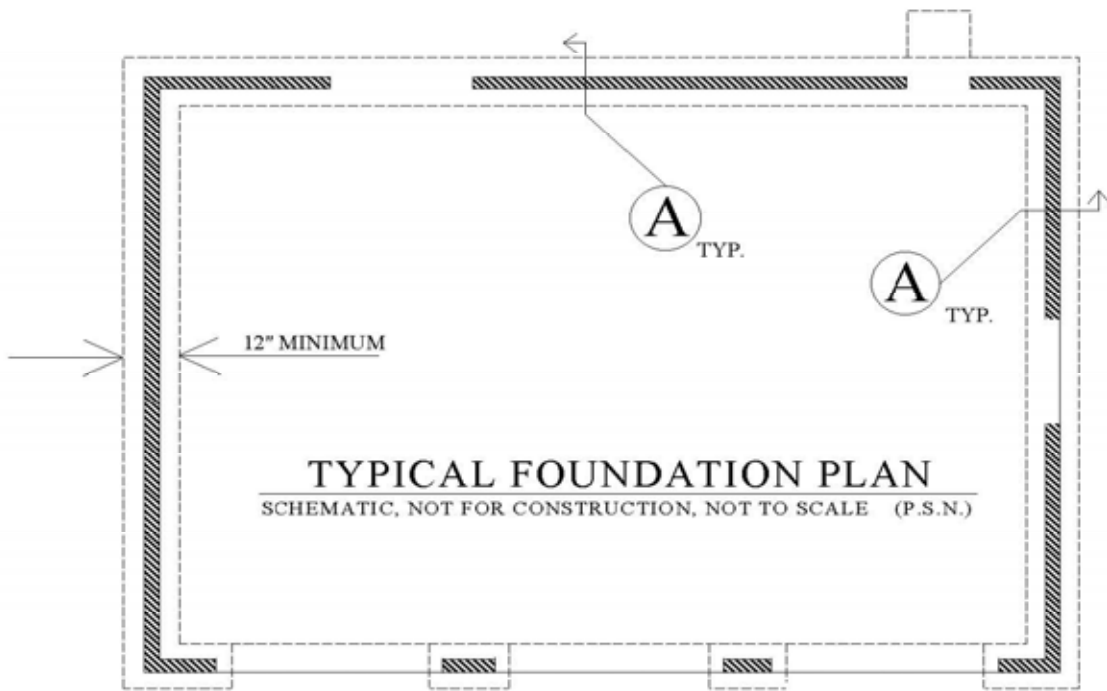
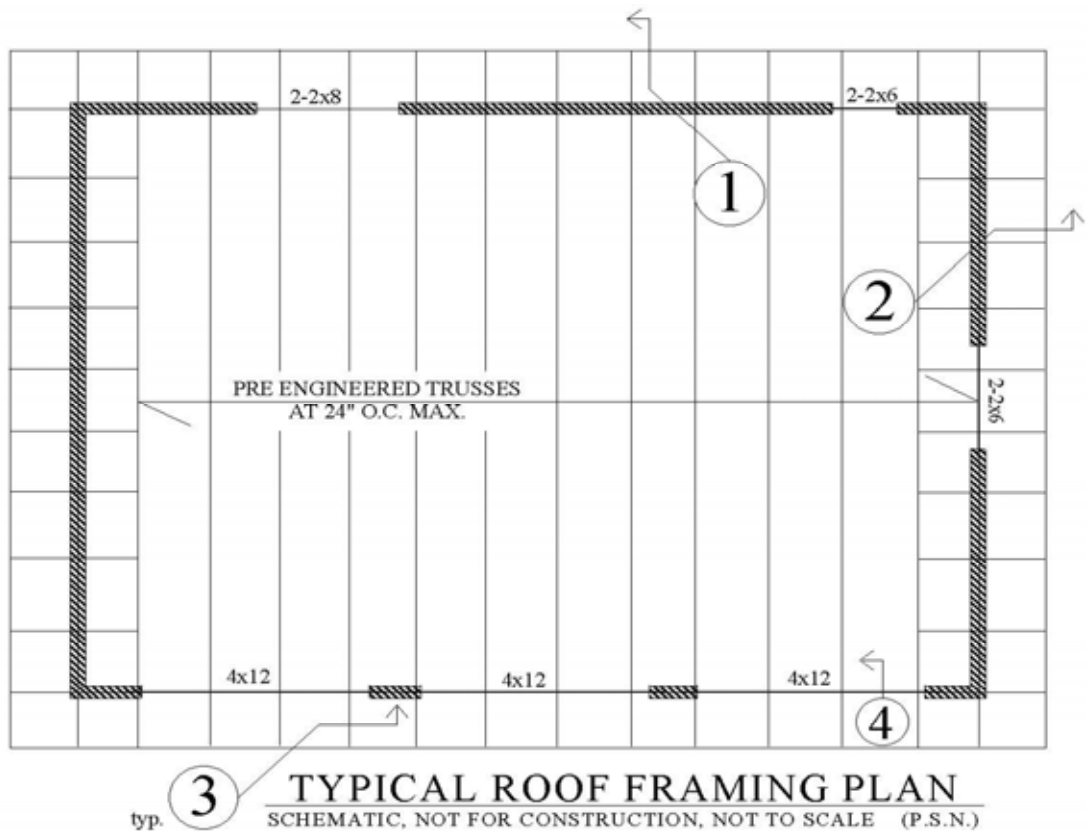
If you plan to use engineered roof trusses on your project, you must submit sealed engineered roof truss calculations with your permit application.

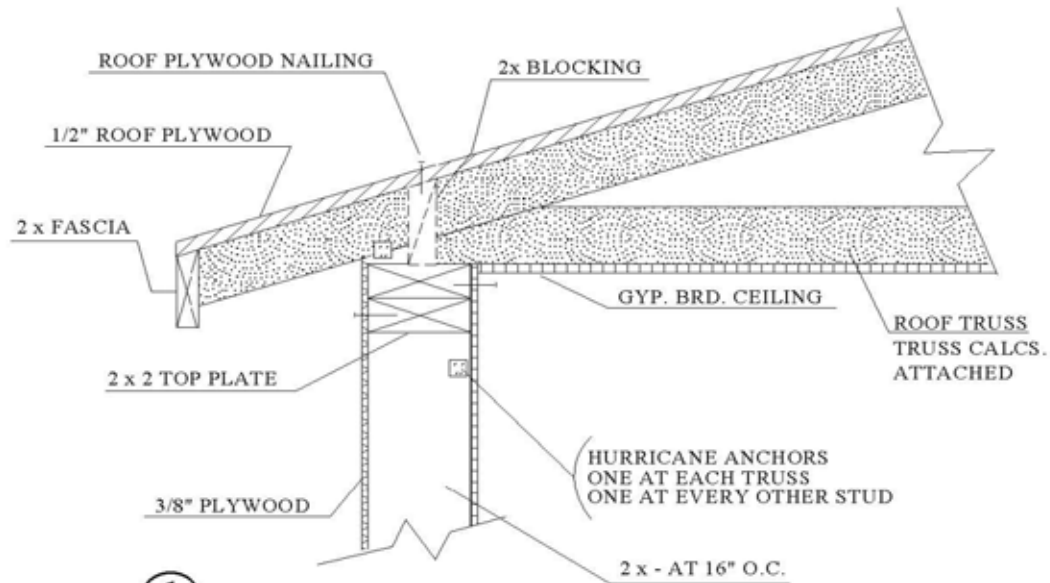
Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion-resistant wire mesh with 1/8-inch minimum to 1/4-inch maximum openings.

The total net free ventilating area shall not be less than 1 to 150 of the area of the space ventilated, except that the total area is permitted to be reduced to 1 to 300, if at least 50% and not more than 80% of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1 to 300 when a vapor barrier having a transmission rate not exceeding 1 perm is installed on the warm side of the ceiling.

You must include roof vent calculations in your drawings.



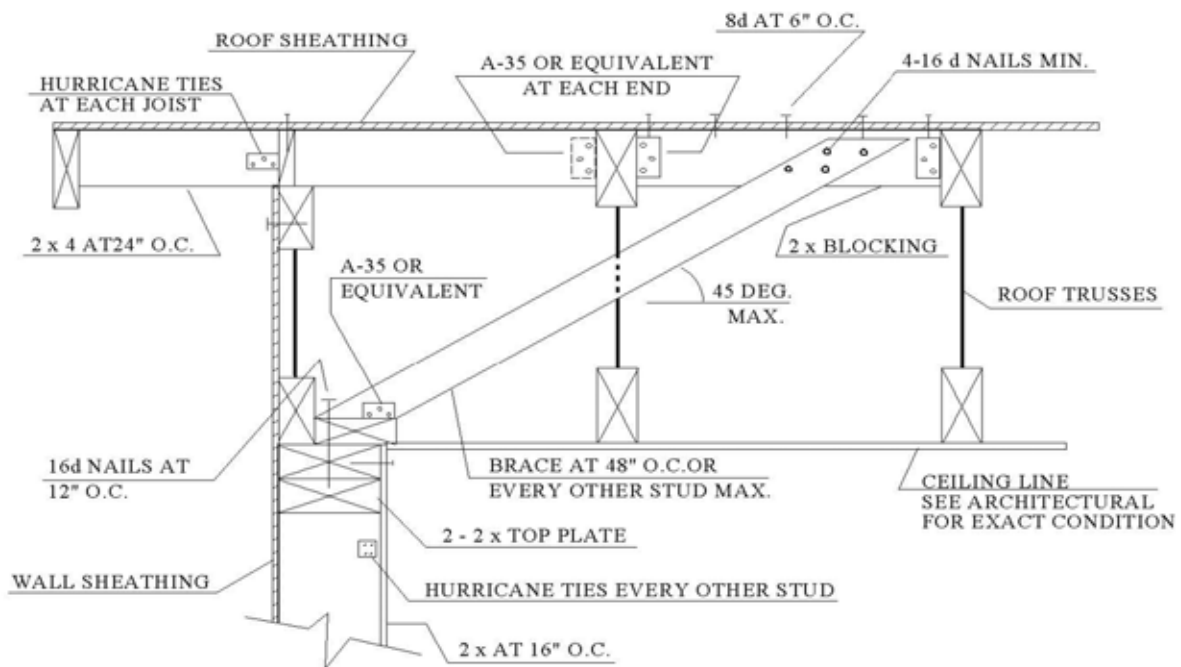




①

ROOF TRUSS AT STUD WALL

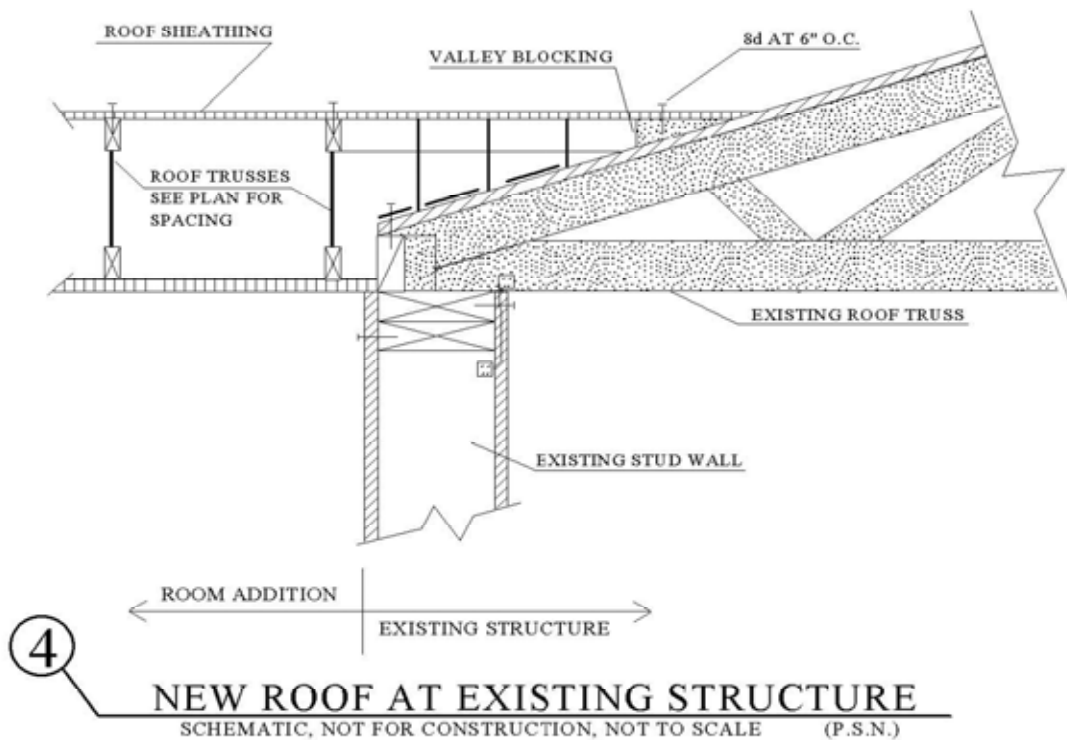
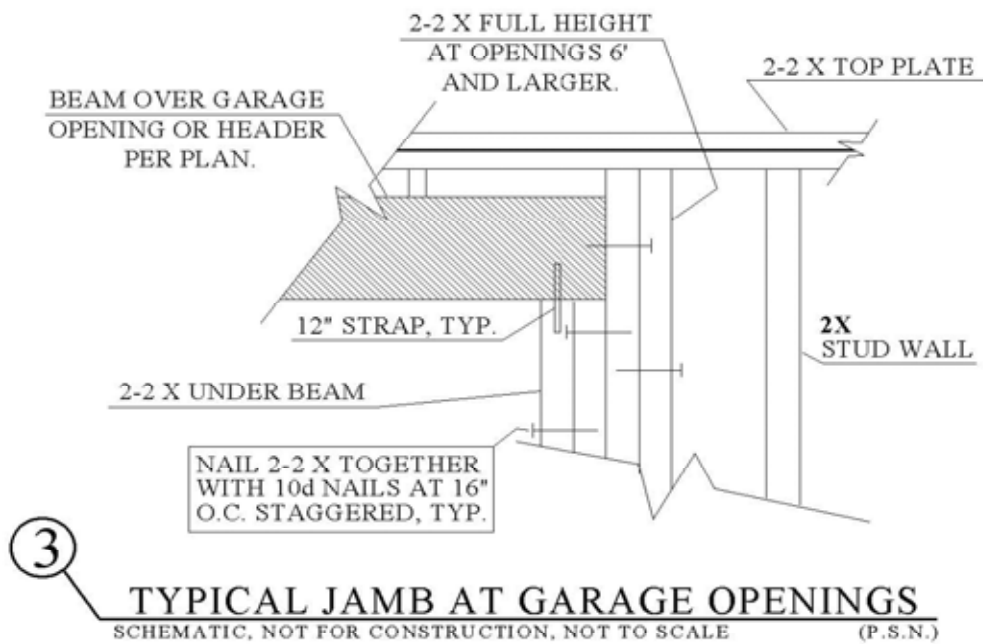
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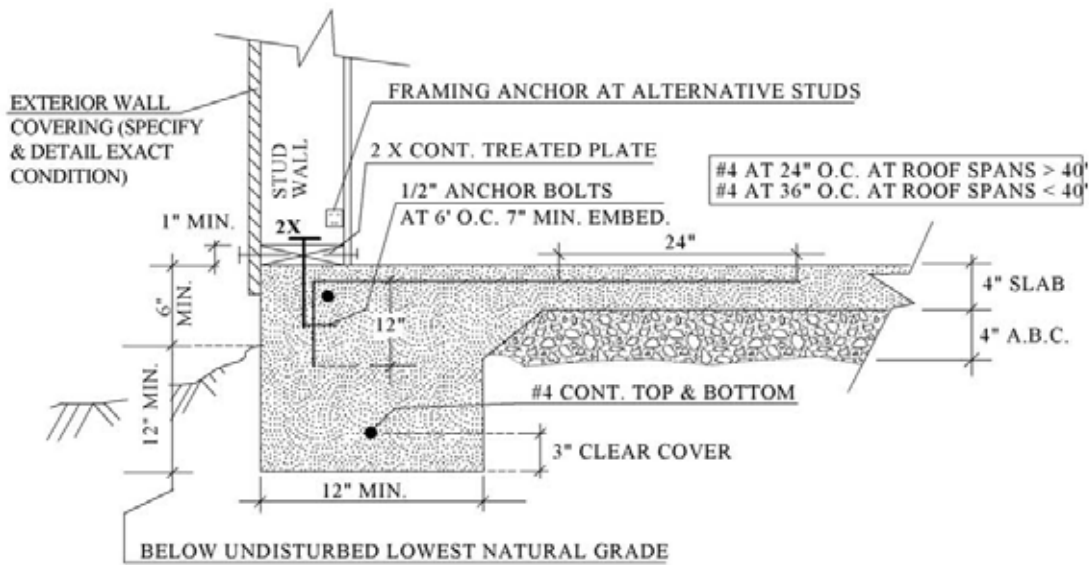


②

GABLE-END BRACE AT ROOF FRAMING

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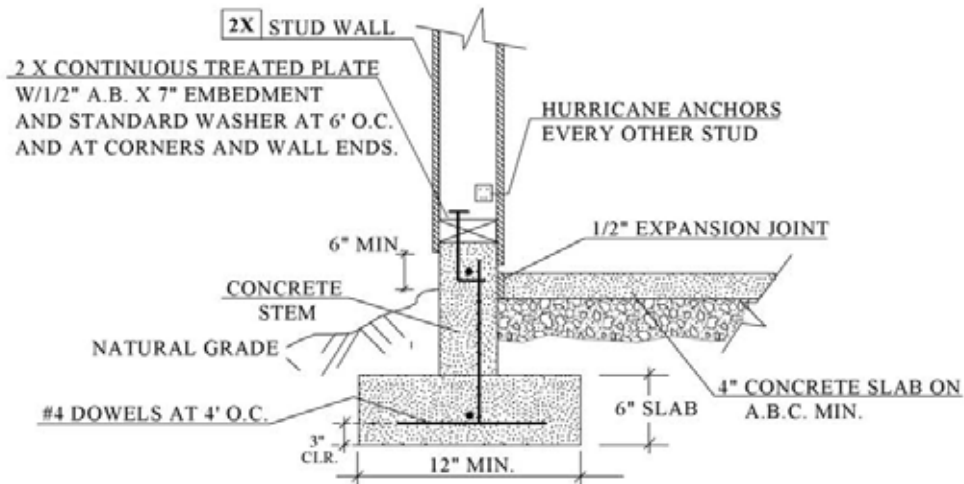


A

MONOLITHIC FOOTING AT STUD WALL

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE

(P.S.N.)



A

ALTERNATIVE

TYPICAL FOOTING AT STUD WALL

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE

(P.S.N.)

Open-Air Ramadas or Gazebos

An open-air ramada or gazebo is a structure open on the sides and supporting a roof or lattice-type cover. Its primary purpose is to provide shade in conjunction with a recreational activity such as a swimming pool, spa, or sitting area. It is not to exceed both 10 feet in height and 150 square feet in area, and must be separated from the residential dwelling by a distance equal to at least $\frac{1}{2}$ of the rear yard setback.

Any proposed ramada or gazebo that exceeds these specifications will be reviewed as an accessory building and is required to meet all property setbacks as indicated in the previous section of this manual.

An open-air ramada or gazebo only requires a 5-foot side yard and 5-foot rear yard setback, as measured from the edge of the roof or cover. In the event that an alley, or common public or private open space other than a street, adjoins the rear yard along one or more of the property lines, the required 5-foot setback from that property line to the ramada may be eliminated.

Roofing

You need to get a permit re-roof your house when you are:

- Replacing the old roofing material with a different material such as concrete tile. An engineering analysis is required to determine if the existing roof assembly will withstand the additional loads.
- Replacing the old roofing with like material that already exceeds two layers.

Fireplaces

Chapter 29-1 of the Chandler City Code adopts the Uniform Fireplace Code.

Definitions

Effective date means December 31, 1998.

Fireplace means a built-in-place masonry hearth and fire chamber or a factory-built appliance, designed to burn solid fuel or to accommodate a gas or electric log insert or similar device, and which is intended for occasional recreational or aesthetic use, not for cooking, heating or industrial processes.

Solid fuel includes, but is not limited to, wood, coal or other nongaseous or non-liquid fuels, including those fuels defined by the Maricopa County Air Pollution Control Officer as “inappropriate fuel” to burn in residential wood burning devices.

Woodstove means a solid fuel burning heating appliance including a pellet stove, which is either freestanding or designed to be inserted into a fireplace.

Installation Restrictions

All fireplaces or woodstoves constructed on or after 12-31-98 must be one of the following:

1. A fireplace that has a permanently installed gas or electric log insert.
2. A fireplace, woodstove or other solid-fuel burning appliance which has been certified by the United States Environmental Protection Agency as conforming to 40 Code of Federal Regulations Part 60, Subpart AAA as in effect on July 1, 1990.
3. A fireplace, woodstove or other solid-fuel burning appliance which has been tested and listed by a nationally recognized testing agency to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations Part 60, Subpart AAA as in effect on July 1, 1990.
4. A fireplace, woodstove or other solid-fuel burning appliance that has been determined by the Maricopa County Air Pollution Control Officer to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations Part 60, Subpart AAA as in effect on July 1, 1990.
5. A fireplace that has a permanently installed woodstove insert, which complies with subsection 2, 3 or 4 above.

In addition to the provisions and restrictions of this section, the construction, installation or alteration of all fireplaces, woodstoves and other gas, electric or solid-fuel burning appliances and equipment shall be done in compliance with the provisions of the construction code and shall be subject to the permits and inspections required by the construction code.

Alterations

On or after the effective date, it shall be unlawful to:

- Alter or remove a gas or electric log insert or a woodstove insert from a fireplace for the purpose of converting the fireplace to directly burn wood or other solid fuel.
- Alter a fireplace, woodstove or other solid fuel-burning appliance in any manner that would void its certification or operational compliance with provisions of this article.

Exemptions

The following installations are not regulated by this section and are not prohibited by this section:

- Furnaces, boilers, incinerators, kilns and other similar space heating or industrial process equipment.
- Cook-stoves, barbeque grills and similar appliance designed primarily for cooking.
- Fire pits, barbeque grills and other outdoor fireplaces.

Room Additions

A room addition is defined as any add-on attached to an existing dwelling, including the enclosure of an existing covered area, such as a patio cover.

To obtain a building permit, please submit:

- Completed application.
- Two copies of the plot plan showing the house on the lot and the proposed room addition with distances to property lines.
- Foundation plans, wall details and exterior elevations.
- Existing and proposed dimensioned floor plan showing windows and sizes, location of plumbing fixtures, electrical outlets, heating, lighting and smoke alarms.

The addition must be architecturally integrated with the existing residence. It should not detract from the surrounding residences.

The drawings need to clearly indicate what the wall and roof covering is on the existing residence as well as the proposed addition. You must provide elevation drawings showing both the existing residence as well as the proposed addition.

Show the footing size on your wall section. Footings are a minimum of 12 inches wide and a minimum of 12 inches below grade. The sill plate shall be a minimum of 6 inches above grade.

Typically, any room (other than a bathroom or kitchen) with a closet shall be considered a sleeping room and will need to meet all sleeping room requirements.

Sleeping rooms, as well as the area outside of sleeping rooms, are required to have smoke alarms. When interior alterations, repairs or additions requiring a permit are made, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings. The smoke alarms must be interconnected and hard wired.

Any main door to the outside must have a concrete landing. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

A switched exterior light is required at the exterior side of each outdoor egress.

Any non-bearing wall to be added does not need its own footing, but it shall have a bottom plate of treated wood or wood of natural resistance to decay. This bottom plate must be fastened to the slab in an approved manner and must be 6 inches above the adjoining surface.

Any bearing wall shall have its own footing, a bottom plate of treated wood or wood of natural resistance to decay, must be secured in an approved manner and must be 6 inches above the adjoining surface.

If you plan to use engineered roof trusses on your project, you must submit sealed engineered roof truss calculations with your permit application.

Provide a complete floor plan of the room adjacent to the new room addition. Indicate the size of the room, the size and location of all doors or windows, etc. All habitable rooms shall be provided with aggregate glazing area of not less than 8% of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. The openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4% of the floor area being ventilated. If you propose to remove or cover existing windows, this information must be included in your drawings.

Provide every dwelling unit with heating facilities capable of maintaining a minimum room temperature of 68°F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this requirement. Indicate how the required heating will be provided.

Install receptacle outlets so that no point along the floor line in any wall space is more than 6 feet (measured horizontally) from an outlet in that space. Insofar as practicable, space receptacles at equal distances apart. As used in this section, a wall space includes the following:

- Any space that is 2 feet or more in width (including space measured around corners), and that is unbroken along the floor line by doorways, fireplaces and similar openings.
- The space occupied by fixed panels in exterior walls, excluding sliding panels.
- The space created by fixed room dividers, such as railings and freestanding bar-type counters.

All branch circuits that supply 125-volt, single-phase, 15- and 20-ampere outlets installed in dwelling unit bedrooms shall be protected by an arc-fault circuit interrupter listed to provide protection of the entire branch circuit.

Every sleeping room shall have at least one openable emergency escape and rescue opening.

- If the opening is a window, it shall have a sill height of not more than 44 inches above the floor.
- All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet.
- Grade floor openings shall have a minimum net clear opening of 5 square feet.
- The minimum net clear opening height shall be 24 inches.
- The minimum net clear opening width shall be 20 inches.
- Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of the roof rafter shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion-resistant wire mesh, with 1/8-inch minimum to 1/4-inch maximum openings.

The total net free ventilating area shall be not less than 1 to 150 of the area of the space ventilated, except that the total area is permitted to be reduced to 1 to 300, if at least 50% and not more than 80% of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents, with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1 to 300 when a vapor barrier having a transmission rate not exceeding 1 perm is installed on the warm side of the ceiling.

You must include roof vent calculations in your drawings.

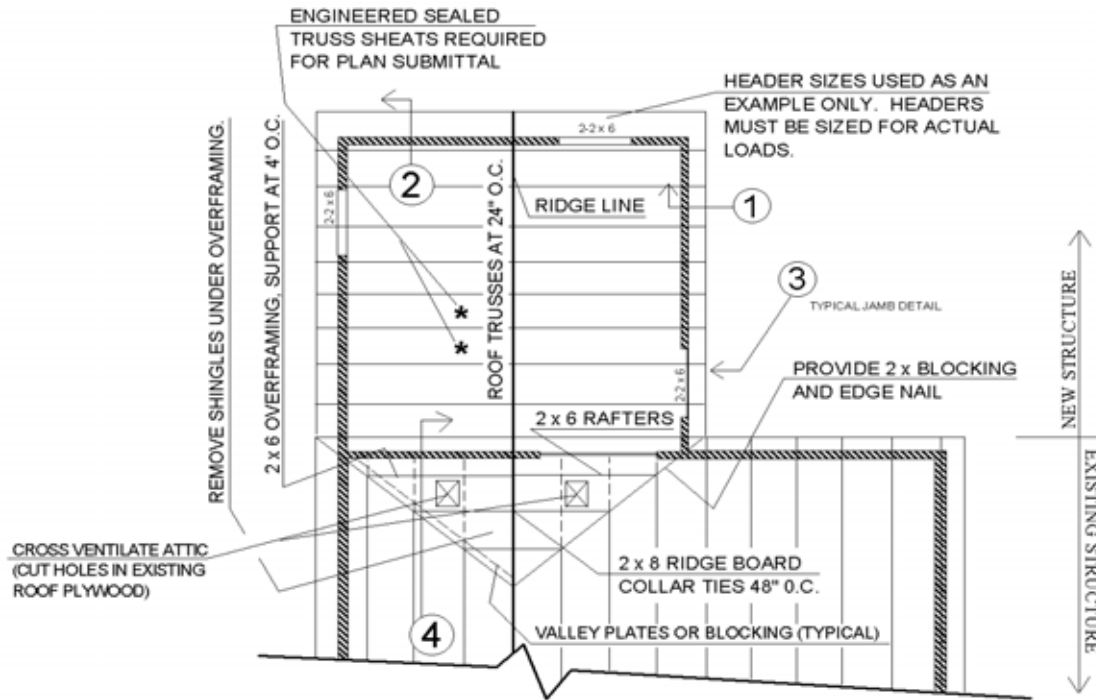
At least one wall switch controlled lighting outlet shall be installed in every habitable room and bathroom.

All 125-volt, single phase, 15- and 20-ampere receptacles installed outdoors shall have ground-fault circuit-interrupter protection (GFCI) for personnel.

At least one wall receptacle outlet shall be installed in bathrooms. It must be located within 36 inches of the outside edge of each lavatory basin. The receptacle outlet shall be located on a wall that is adjacent to the lavatory basin location. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops in a bathroom basin location.

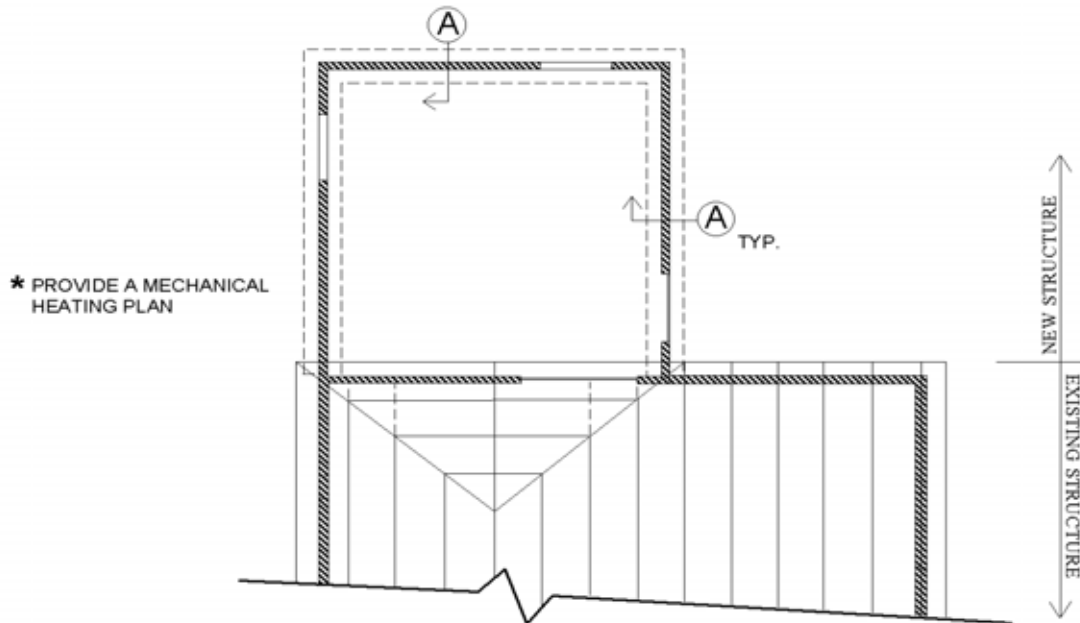
All 125-volt, single-phase, 15- and 20-ampere receptacles installed in bathrooms shall have ground-fault circuit-interrupter protection (GFCI) for personnel.

Please provide a water meter work sheet if you are adding plumbing fixtures (see Appendix B for an example). This information must be on the plans, not a separate sheet.



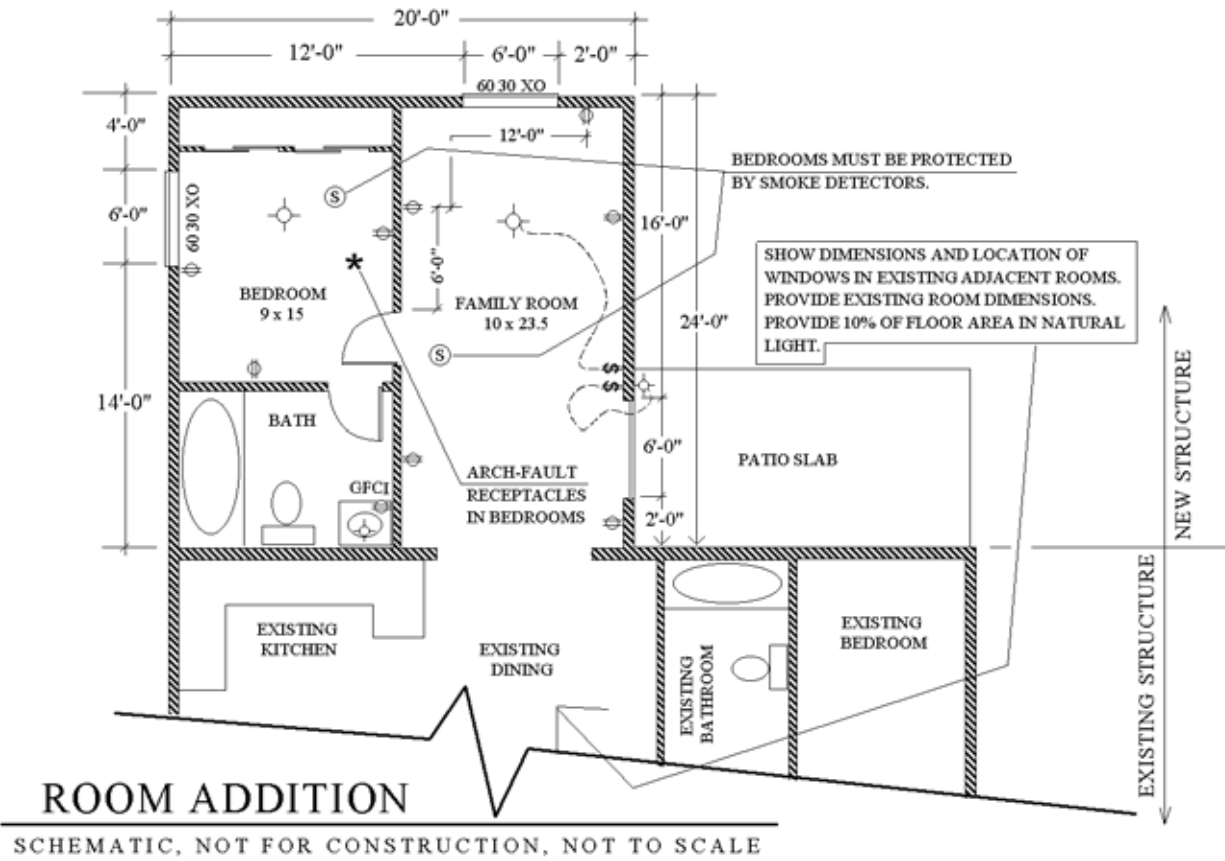
ROOF FRAMING AT ADDITION TO EXISTING BUILDING

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE



FOUNDATION PLAN FOR ROOM ADDITION

SCHEMATIC, NOT FOR CONSTRUCTION, NOT TO SCALE



Storage Sheds

A storage shed is defined as a subordinate structure or building used primarily for storage purposes, of a height not greater than 7 feet, and total square footage under the roof not to exceed 120 square feet, with no utilities (water, sewer, electrical or gas).

As defined, this structure does not require a building permit. If the storage shed exceeds the parameters defined above, it becomes an accessory building and must meet the requirements for that type of structure.

Storage sheds are limited to one per lot and they must be located in the side or rear yard of the property.

They are not subject to side and rear yard setback requirements, and must not be placed in an easement.

To avoid fire-resistive construction requirements and to facilitate firefighting efforts, storage sheds must be a minimum of 3 feet from the residence. A permit is required for sheds constructed within 3 feet of the main structure.

Storage shed roofs shall not drain onto adjoining properties.

Stucco

A permit is required for all stucco applications.

The work must be performed by a licensed applicator.

Swimming Pools and Spas

All pools and spas require a permit, whether constructed above or below ground.

Pool engineering plans, stamped and sealed by an engineer, are required on all custom in ground pools and spas. Plans are required on all pre-manufactured above ground pools and spas.

Swimming pools shall not occupy any front yard nor shall the water's edge be located closer than 5 feet to any side or rear property line.

The water's edge must be a minimum of 5 feet from the fence for all pools constructed on a lot with an offset property line and/or an offset fence.

A pool or cool decking cannot be constructed across a property line.

An engineered surcharge design is required for in-ground pools built closer than 3 feet to a building foundation.

Pool equipment must be 5 feet from the water's edge.

Prior to construction, all easements must be cleared by the utility companies.

Any glazing within 5 feet of the water's edge where the bottom edge is less than 60 inches above grade must be safety glazed. Tinting film may not be used to satisfy this requirement.

Fences

Chandler City Code requires a 6-foot minimum to a 7-foot maximum perimeter fence around the property, as measured on the outside of the property (refer to Chapter 35, Section 2205). This fence may be a solid masonry or wrought iron fence. Refer to the section on fences and walls page 8 of this manual for the requirements for fences over 6 feet in height.

Interior Pool Barriers

Chandler City Code requires an interior pool barrier (refer to Chapter 29, Section 6.1(C). The requirements are as follows (also refer to page 39 in this manual, "Pool Barrier Guidelines"):

- For residential pools, a 5-foot minimum wrought iron or block and wrought iron combination, unless the interior barrier is being used to meet all fence/barrier requirements (refer to Graphic A on page 42).
- For apartment complex or other semi-public pools where the fence (constructed of wrought iron or curb and wrought iron combination) also serves as the perimeter fence, the minimum height shall be 6 feet.
- Proper devices on doors and windows that open into the pool area (refer to the door and window information in the "Pool Barrier Guidelines" section).

- Approved lockable or latchable hard cover for spas under 8 feet wide (refer to safety covers information in the “Pool Barrier Guidelines” section).
- Approved key-operated, motorized safety cover which complies with ASTM ES 11389 and Article 680-26 of the National Electric Code (refer to safety covers information in the “Pool Barrier Guidelines” section).

Gates

If no interior barrier is present, the gate on the perimeter fence must swing outward from the pool and be self-closing and self-latching, if the gate was installed after August 7, 1993.

If the interior barrier is present, the perimeter gate may swing in either direction, be self-closing or self-latching, but if barrier is in place, gate is not required to be self closing and self-latching. Refer to Zoning Code Chapter 35 Section 2205 (4).

All gate leafs 4 feet or less are to be considered as pedestrian gates and must be self-closing and self-latching, with a latch height at 54 inches above grade.

All gate leafs over 4 feet must be secured with a locking device and be kept locked.

A spring-loaded hinge may be used to make a gate self-closing. This is a stretch spring mounted horizontally from the gate to a post or pilaster or a torque spring mounted in an almost vertical position from the gate to a post or pilaster. The torque spring is to be mounted on the face of the gate that will allow the torque spring to unwind and PUSH the gate to the latched position (see Graphic B at the end of this section for torque spring installation).

Doors

The types of door latches allowed are:

- Double cylinder gate latch at any height.
- Simple passage lock at 54 inches above finished floor.

Inspections

No one needs to be home for the first inspection, which is the pregunite inspection.

The homeowner must be present for the second inspection (preplaster inspection) if the house forms part of the interior barrier around the pool or there is no interior pool fence. However, if an interior fence encompasses the entire pool, then the homeowner does not need to be present for the second inspection.

All electrical service panels must be left unlocked for the inspector.

Inspections that require entry into the home will not be conducted if only minor children are at home.

Pool Barrier Guidelines

Please note: the pool barrier requirements must be met whether or not children of any age are living at the dwelling.

Interior Barrier

Interior barriers shall be an interior fence, perimeter fence space, wall, building wall or a combination thereof, which completely surrounds the swimming pool. The pool side of the barrier shall not be less than 20 inches from the water's edge. The top of the barrier, including all gates and doors therein, shall not be less than 5 feet above finished floor or finished grade measured on the exterior side of the enclosure.

There shall be no horizontal or vertical openings, holes, or gaps in the interior barrier large enough for a sphere 4 inches in diameter to pass through.

A barrier fence or wall shall have no handholds, footholds or horizontal members accessible from the exterior side of the enclosure. Horizontal members of fences shall be spaced not less than 45 inches apart measured vertically, or shall be placed on the pool side of a fence which has no opening greater than 1¾ inches measured horizontally. Wire mesh or chain link fences shall have a maximum mesh size of 1¾ inches measured horizontally.

In addition, the exterior fence enclosure for swimming pools (as required by Chapter 35-2205 of the City Code) need not necessarily be located on the side or rear property lines. In the case where the interior barrier as required in Chapter 29-6 of the City Code also serves as the exterior barrier, it must be 6 feet in height, in addition to complying with the applicable barrier standards as set forth in Chapter 29-6 of the City Code. Said barrier shall preclude exterior access. (See Graphic A on page 43 at end of this section).

Gates and Doors

All pedestrian access gates in an interior barrier shall be self-closing and self-latching and must open outward from the pool. Gate latches shall be located not less than 54 inches above finished grade or shall otherwise be made inaccessible from the outside by small children. (See Graphic B on page 43 at end of this section).

All exterior hinged or sliding doors leading from a dwelling unit, bedroom, garage or storage room directly into a swimming pool enclosure shall be self-closing.

Self-closing devices shall consist of one of the following:

- Spring loaded hinges.
- Pneumatic closures (without stops).
- Approved sliding glass door closures.

Latching mechanisms shall consist of one of the following:

- Passage lock located 54 inches above the finished floor.
- Double cylinder gate latch installed at any height, provided the door is not required for emergency egress.
- Sliding glass door latches shall be located 54 inches above the finished floor.

If a pet door is large enough that a sphere 4 inches in diameter will pass through, and is located in any wall of the dwelling that forms a part of the interior barrier, it must be rendered unusable with screws or nails so the slide portion of the pet door cannot be removed.

Windows

All windows facing on a swimming pool enclosure shall be equipped with a latching device.

For emergency escape or rescue windows, the latching device shall consist of one of the following:

- A thumb screw clamp that prevents opening the window more than 4 inches and is located not less than 54 inches above the finished floor.
- A latching device that is part of a horizontal sliding window located not less than 54 inches above the finished floor.

For all other openable dwelling unit or garage windows, the latching device shall consist of one of the following:

- A thumb screw clamp that prevents opening the window more than 4 inches and is located not less than 54 inches above the finished floor.
- A keyed lock that prevents opening the window more than 4 inches and is located at any height.
- A screwed-in-place wire mesh screen.
- A latching device that is part of a horizontal sliding window located not less than 54 inches above the finished floor.

Safety Covers

A hard safety cover, which may be latched or locked, shall be deemed to meet all barrier requirements of this section for any spa or hot tub, which does not exceed 8 feet in width at any point.

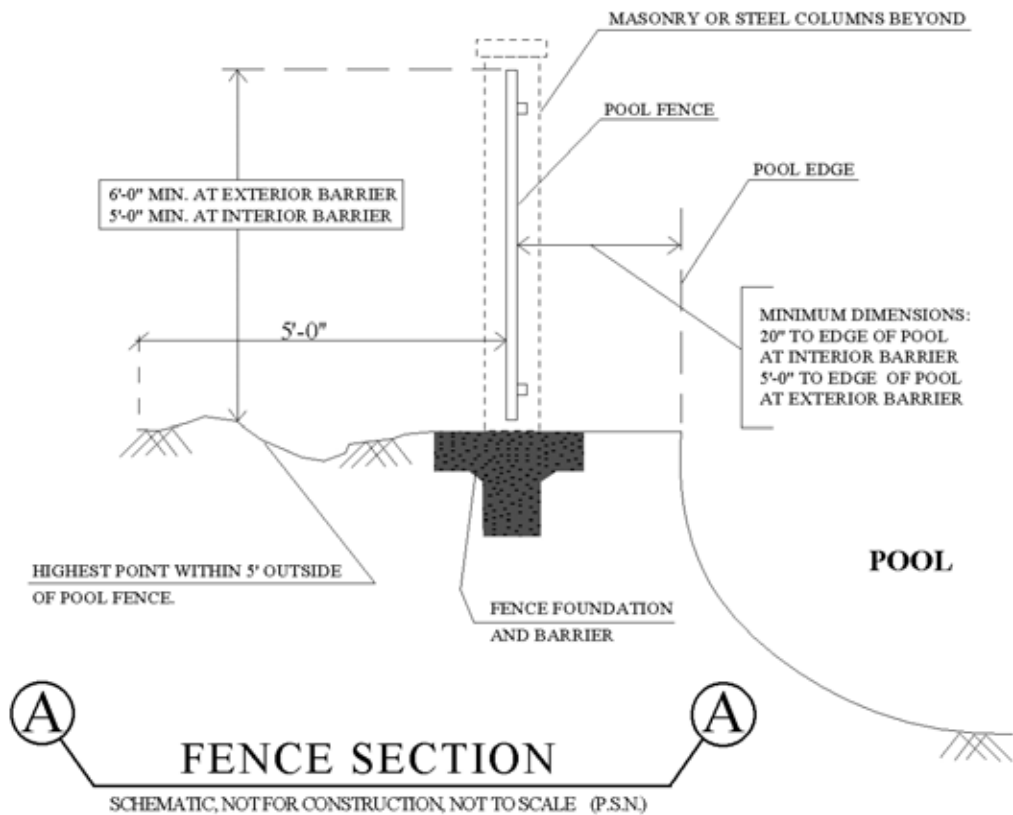
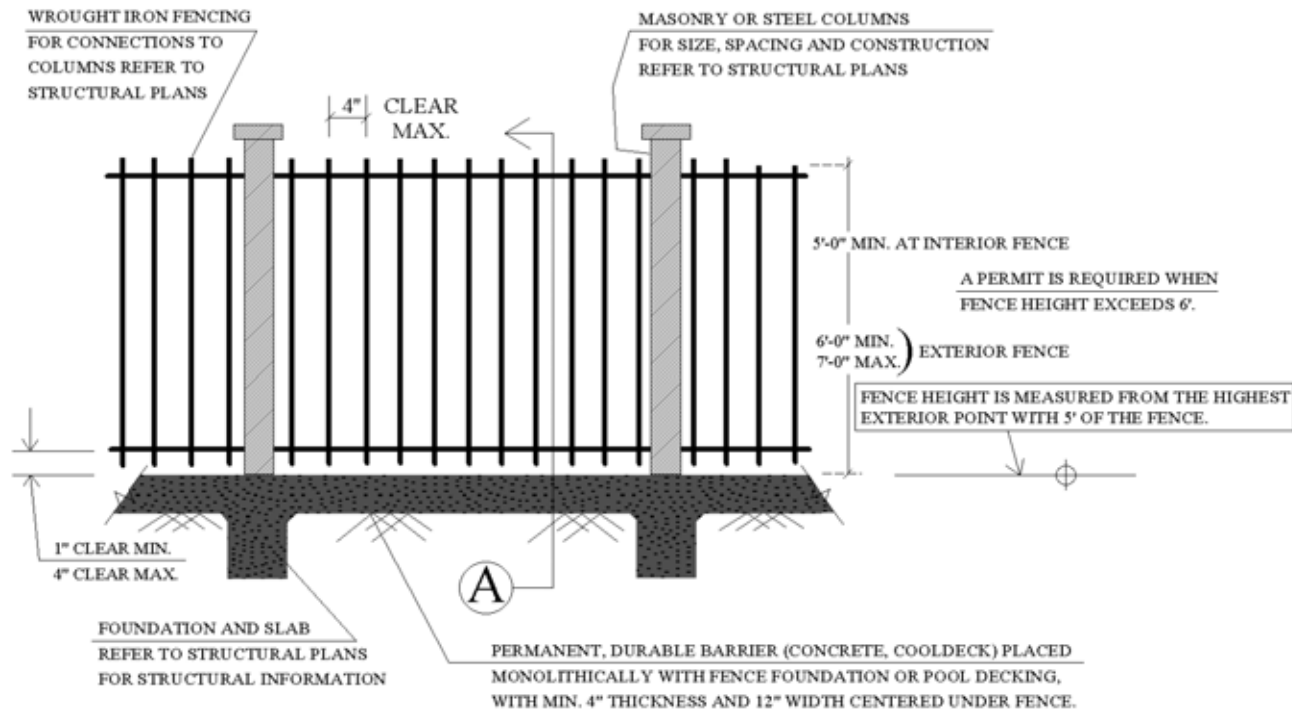
A key-operated, motorized safety cover which complies with ASTM ES13-89 and Article 680-26 of the National Electric Code may be used to meet the requirements of this section for a barrier between a single family dwelling and a swimming pool accessory to that dwelling, provided that the requirements of the City of Chandler Zoning Code, Chapter 35, Section 2205 are met for all spas, hot tubs and swimming pools. (This code section refers to the requirement for a 6-foot high perimeter fence.)

Above Ground Swimming Pools

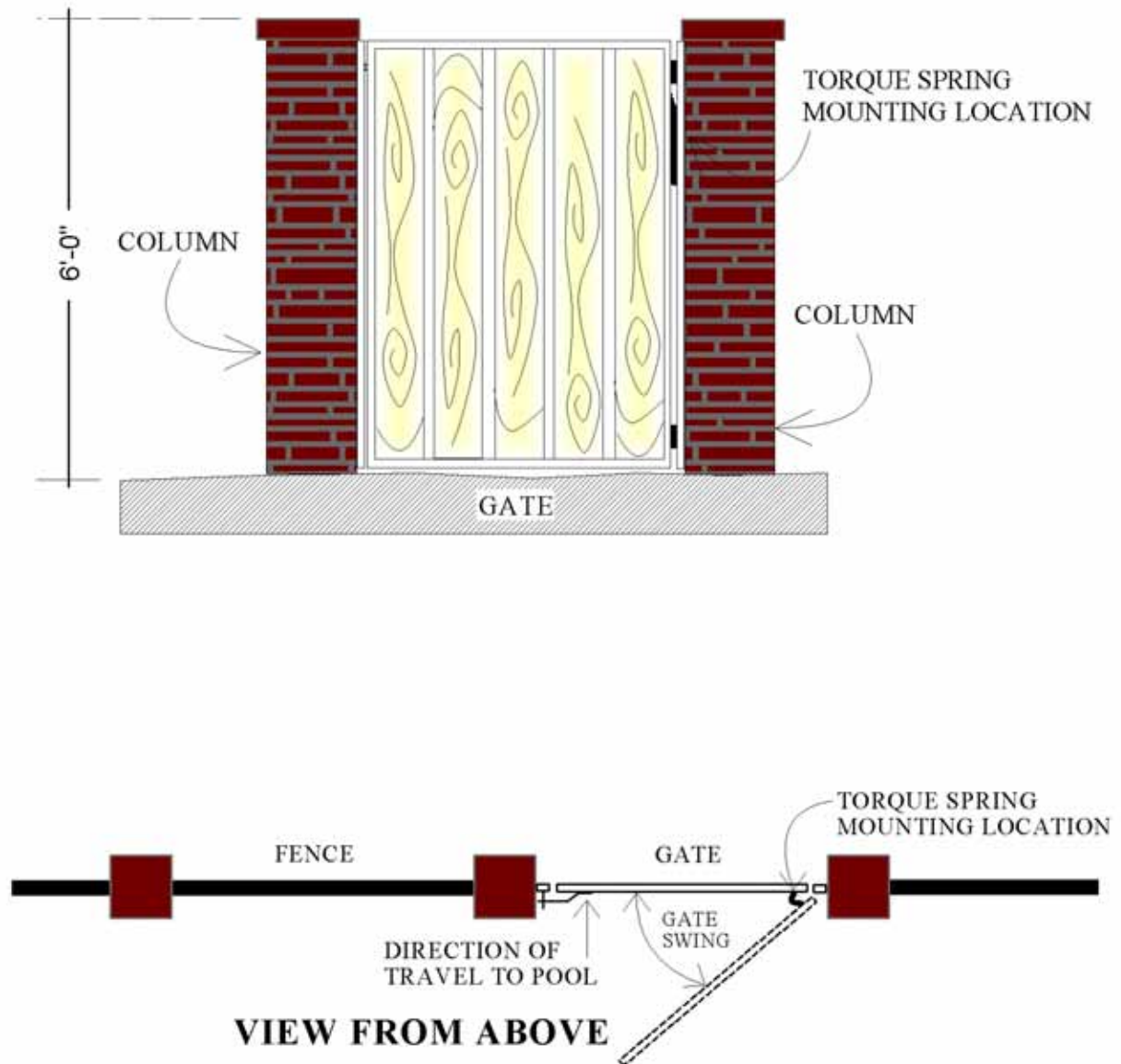
All above ground pools, with non-climbable sides not less than 48 inches high above the finished grade, may be located on a single-family residential property without requiring an interior fence, wall or barrier between the pool and the dwelling. This is allowed provided any steps or ladder are removable without the use of tools, or are designed to be secured in an inaccessible position with a lock or latch located not less than 54 inches above the finished grade.

Electrical installation must comply with article 680-30 of the National Electric Code.

Graphic A



Graphic B



Required Inspections

This section lists the minimum inspections required by the City of Chandler.

To schedule an inspection, call (480) 782-3100, 24 hours in advance of when the inspection is needed. An inspector will visit the property and leave written approval or a correction notice. The building inspector must approve all work before construction can proceed to the next level. All work to be inspected must be accessible and exposed.

Type of Inspection	Request Inspection When:
1. Footings	All forms, reinforcing steel and Ufer ground are in place. An additional inspection is required for stems poured separately.
2. Monolithic footing	Reinforcing steel, Ufer, forms and accessories are in place, but not covered.
3. Stem wall	Forms are aligned and staked, grade pins installed and reinforcing steel is in place.
4. Plumbing (groundwork)	The underfloor building drain is installed, shaded and under pressure test, but not covered.
5. Water piping (groundwork)	All underfloor water piping is installed, but not covered.
6. Building sewers (the sewer piping connecting the building with the private sewer or the public sewer)	Pipes are installed, shaded and properly supported, but not covered.
7. Water service (the water yard piping from the City water meter to the building)	Pipes are installed and under pressure, but not covered.
8. Upper level drainage	Tubs are filled to flood rim.
9. Strap and shear	All shear panels and mechanical fasteners are installed, but not covered.

Type of Inspection**Request Inspection When:**

Note: inspections 10 through 13 are done concurrently.

- | | |
|-----------------------------------|---|
| 10. Rough electrical | All rough-in electrical is installed, but not covered |
| 11. Rough plumbing | All rough-in plumbing is installed and under pressure test, but not covered. |
| 12. Rough heating and ventilation | All rough-in mechanical work is installed, but not covered. (Groundwork – request inspection when ductwork is installed, but not covered). |
| 13. Framing | The building is “dried in” and all framing members, gussets, shear panels, anchors and all plumbing, mechanical and electrical rough-ins are in place, but not covered. |

Note: inspections 14 and 15 are done concurrently.

- | | |
|---------------------------|--|
| 14. Wallboard | The wallboard is installed and nailed, but not filled or taped. |
| 15. Lath inspection | All substrate wire mesh and trim are installed and ready to receive stucco, but not covered. |
| 16. Electric (groundwork) | The conduit is installed, but not covered. |
| 17. Final Inspection | The building is completed to the requirements of the approved plans, specification and the City of Chandler Codes. |

Appendix A

Building Plan Review and Permit Fees

The fees for building permits and inspection are set forth in the Uniform Administrative Code, 1994 edition, adopted by the City Council, and in Chapter 29 of the City Code.

Total Valuation	Fee
\$1.00 to \$500	\$22.00
\$501 to \$2,000	\$22 for the first \$500, plus \$2.75 for each additional \$100 or fraction thereof, to and including \$2,000
\$2,001 to \$25,000	\$63 for the first \$2000, plus \$12.50 for each additional \$1,000 or fraction thereof, to and including \$25,000
\$25,001 to \$50,000	\$352 for the first \$25,000, plus \$9 for each additional \$1,000 or fraction thereof, to and including \$50,000
\$50,001 to \$100,000	\$580 for the first \$50,000, plus \$6.25 for each additional \$1,000 or fraction thereof, to and including \$100,000
\$100,001 to \$500,000	\$895 for the first \$100,000, plus \$5 for each additional \$1,000 or fraction thereof, to and including \$500,000
\$500,001 to \$1,000,000	\$2,855 for the first \$500,000, plus \$4.25 for each additional \$1,000 or fraction thereof, to and including \$1,000,000
\$1,000,001 and up	\$4,955 for the first \$1,000,000, plus \$2.75 for each additional \$1,000 or fraction thereof

Other Plan Review and Special Inspection Fees

Building plan review fee	65% of building permit fee
Additional plan review (revisions to approved plans)	\$42/hour, ½ hour minimum
Building re- inspection fee for work not ready and needing additional inspection	\$42/hour
Inspection outside normal business hours	\$42/hour, 2 hour minimum
Inspections without a specific fee	\$42/hour, ½ hour minimum
Electrical permit	\$42
Residential irrigation permit	\$22
Plumbing permit	\$42
Plan review fee for custom pool and/or spa	65% of permit fee based on valuation
Pool permit fee	\$100
Spa permit fee	\$50
Pool and spa combo permit fee	\$150
Temporary power permit	\$42

Appendix B Water Meter Worksheet

Fixture	Number	Value	Total
Water Closet (tank type)		x 2.2	
Shower Stall		x 1.4	
Bathtub (with/without overhead shower head)		x 1.4	
Lavatory		x 0.7	
Kitchen Sink		x 1.4	
Dishwasher		x 1.4	
Hose Bibs (count all)		x 2.5	
Laundry or Utility Sink		x 1.4	
Automatic Clothes Washer		x 1.4	
Full Bath Group (with/without shower head or shower stall)		x 3.6	
Half Bath Group (water closet and lavatory)		x 2.6	
Kitchen Group (dishwasher and sink with/without garbage grinder)		x 2.5	
Laundry Group (clothes washer standpipe and laundry tub)		x 2.5	
Total Fixture Units			

Total developed length of the water line from the water meter to the furthest water-using fixture unit. (**Note:** this is usually the hose bib at the rear of the home).

Total distance: _____ feet

Indicate the size of the existing water meter and supply size:

Meter size _____

Supply size _____

Note: for a room addition, please include both the existing and new on this sheet.